DATE	11/09/11
INVOICE NO.	444003
BILL OF LADING	43978
CUSTOMER NO.	5446
CUSTOMER P.O.	600221

NUCOR-YAMATO STEEL CO.

P.O. BOX 1228 ● BLYTHEVILLE,AR 72316

CERTIFIED MILL TEST REPORT

100% MELTED AND MANUFACTURED IN U.S.A.

All shapes produced by Nucor-Yamato Steel are cast and rolled to a fully killed and fine grain practice.

SHIP TO

FB C/O JORGE MIGUEL MEDRANO SANCHEZ
HIDALGO 3530 PAT 4100
FINAL: SAN LUIS POTOSI, SLP MX
NUEVO LAREDO, TM 88000

SPECIFICATIONS

ASTM A992/A992M-06a A572/A572M GR50-07
ASTM A709/A709M-09 GR50 (345)
ASTM A709/A709M-09 GR50S (345S)
ASTM A6/A6M-09

4530

SOLD TO

FERRE BARNIEDO, SA DE CV
AV REVOLUCION #81 COL SAN CRISTOBAL
ECATEPEC DE MORELOS
EDO, MEXICO CP 55000

ITEM #	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES						CHEMICAL PROPERTIES												
				YIELD TO TENSILE RATIO	YIELD STRENGTH PSI / MPa	TENSILE STRENGTH PSI / MPa	ELONG %	CHARPY IMPACT TEMP °F / °C	CHARPY IMPACT IMPACT ENERGY FT-LBS / JOULES	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
																		Sn	Pcm		CI
	40 -199.0	1	374904	.80	59000	74000	30			.08	1.21	.022	.021	.26	.24	.12	.12	.04	.04	.000	.34
	40'			.79	56000	71000	30											.01	.18		
	W1000x296.0				407	510	30														
	12.192 M				386	490	30														
2	W40 -199.0	1	374907	.81	58000	72000	28			.08	1.10	.016	.022	.24	.29	.11	.09	.03	.00	.019	.31
	40'			.78	56000	72000	30											.01	.17		
	W1000x296.0				400	496	28														
	12.192 M				386	496	30														
3	W40 -199.0	2	374909	.79	58000	73000	28			.08	1.25	.020	.028	.25	.28	.10	.10	.03	.03	.009	.35
	40'			.76	55000	72000	29											.01	.18		
	W1000x296.0				400	503	28														
	12.192 M				379	496	29														
4	W40 -199.0	3	375101	.80	57000	71000	30			.07	1.11	.017	.024	.21	.28	.11	.12	.03	.00	.019	.32
	40'			.82	58000	71000	30											.01	.16		
	W1000x296.0				393	490	30														
	12.192 M				400	490	30														
5	W40 -199.0	4	375102	.79	58000	73000	29			.07	1.06	.019	.025	.21	.29	.10	.12	.03	.00	.019	.31
	40'			.81	58000	72000	29											.01	.16		
	W1000x296.0				400	503	29														
	12.192 M				400	496	29														
6	W40 -199.0	1	375104	.80	56000	70000	28			.07	1.01	.022	.025	.22	.28	.09	.15	.03	.00	.019	.30
				.82	58000	71000	29											.01	.16		
	W1000x296.0				386	483	28														
	12.192 M				400	490	29														
7	W40 -199.0	2	375106	.80	56000	70000	28			.08	1.00	.019	.025	.24	.30	.10	.13	.03	.00	.019	.31
	40'			.80	55000	69000	29											.01	.17		
	W1000x296.0				386	483	28														
	12.192 M				379	476	29														
8	W40 -199.0	2	375115	.83	62000	75000	26			.07	1.10	.014	.025	.20	.32	.11	.10	.04	.00	.018	.31
	40'			.81	60000	74000	30											.01	.16		
	W1000x296.0				427	517	26														
	12.192 M				414	510	30														
9	W40 -199.0	8	375175	.79	58000	73000	30			.07	1.25	.016	.025	.26	.28	.09	.09	.03	.02	.009	.33
	40'			.78	58000	74000	27											.01	.17		
	W1000x296.0				400	503	30														
	12.192 M				400	510	27														

$Pcm = C + \frac{Si}{30} + \frac{Mn + Cu + Ni}{20} + \frac{Cr + Mo + V}{15} + 5B$ Bin Approx 1005

CARBON EQUIVALENT: $CE = CE(IIW) = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15$

Mercury has not been used in the direct manufacturing of this material.

Corrosion Index: $CI = 26.01(\%Cu) + 3.88(\%Ni) + 1.20(\%Cr) + 1.49(\%Si) + 17.28(\%P) - 7.29(\%Cu)(\%Ni) - 9.10(\%Ni)(\%P) - 33.39(\%Cu)^2$

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by this material manufacturer are in compliance with the requirements of the material specifications listed in the Specifications Block above.

Gary Lennell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS

9 Day of 11/11

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

CHARLENE WALLIS NOTARY PUBLIC MY Comm. Exp 10-21-2013 MISSISSIPPI CO. ARKANSAS

FERRE BARNIEDO, S.A. DE C.V.
ESTE CERTIFICADO ES COPIA FIEL
DEL ORIGINAL DE NUESTROS ARCHIVOS
AMPARA LA REMISION No. _____
TEL. 58-36-10-00
ventas@ferrebarniedo.com.mx